REMARKS

Initially, in the Office Action dated October 5, 2005, the Examiner has rejected claims 8, 9, 27-29, and 31 under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of U.S. Patent No. 6,157,183 (Bradley). Claim 30 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Applicant's admitted prior art in view of Bradley and further in view of U.S. Patent No. 6,112,070 (Katsuyama et al.).

The Examiner indicates that claims 10-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Further, claims 1-7 and 14-23 have been allowed.

By the present response, Applicant has amended claims 8 and 27 to further clarify the invention. Claims 1-23 and 27-31 remain pending in the present application.

Allowable Subject Matter

Applicant thanks the Examiner for allowing claims 1-7 and 14-23 and indicating that claim 10-13 would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims.

35 U.S.C. §103 Rejections

Claims 8, 9, 27-29 and 31 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Applicant's admitted prior art in view of Bradley. Applicant respectfully traverses these rejections.

Bradley discloses a two port handheld vector network analyzer (VNA) enabling both reflection and transmission measurements to be made over a range of 25 MHz to 3.3 GHz frequency range. The handheld VNA includes a tracking synthesizer which generates a LO signal without a direct connection to a reference oscillator, enabling resolution of the LO signal to be independent of a generated RF test signal. Synchronous detectors are further included to provide incident, reflected, and transmitted IF signals to an A/D converter. To enable operation in the presence of external signals, a feedback dither line is provided from one of the synchronous detector outputs to sweep the frequency of the reference oscillator. The handheld VNA also is configured to optionally operate as a frequency monitor to determine the frequency range and power level of incoming signals without upconverting and downconverting to eliminate images as typically done in a spectrum analyzer.

Regarding claims 8 and 27, Applicant submits that none of the cited references, taken alone or in any proper combination, disclose, suggest, or render obvious the limitations in the combination of each of these claims of, *inter alia*, a radio frequency (RF) characteristic analyzer coupled to monitor and analyze an output signal of each of the transmitter and receiver and determine an extent of signal degradation, and to provide a monitoring signal based on the level of degradation, or where the RF characteristic analyzer is coupled to the frequency band filter and the receiving frequency converter and includes transmission and reception band rejection filters to respectively filter out unwanted signals output from the frequency band filter and the receiving frequency converter, the RF characteristic analyzer determining whether the unwanted signals are increasing or decreasing.

The Examiner admits that Applicant's admitted prior art fails to teach these limitations but asserts that Bradley discloses these limitations at column 2, lines 39-59 and column 3, lines 29-53. However, these portions of Bradley merely disclose how desirable it is to have a handheld VNA with two measurement ports. For example, by transmitting a signal through the low noise amplifier (LNA) from a first VNA measurement port and receiving the transmitted signal from the LNA at a second VNA measurement port, one can determine whether the LNA is properly amplifying an input signal, and also, by transmitting a signal through a cell site antenna from a first VNA measurement port and receiving the transmitted signal with another antenna at a second VNA measurement port, antenna gain in different directions from the antenna can be determined.

These portions of Bradley also disclose that measurements at a cell site are typically made to determine if interfering signals are present utilizing a spectrum analyzer, and that the RF signal is provided to a mixer and a first measurement port along with the LO signal to form an incident IF signal and a reflected IF signal, that synchronistic detectors are then utilized which receive the IF signals and produce both real and imaginary incident and reflective signals to an A/D converter, that to enable reduced measurement error in the presence of an external signal, a dither line control feedback is provided to the reference oscillator from the incident real signal output of the synchronistic detector to sweep the frequency of the reference oscillator, and that a second test port receives transmitted signals that are provided to a mixer along with the LO signal to provide a transmitted IF signal in that synchronistic detectors are then utilized to receive the transmitted IF signal and produce both real and imaginary transmitted signals to the

A/D converter. These portions of Bradley do not disclose or suggest an RF characteristic analyzer coupled to monitor and analyze an output signal of each of the transmitter and receiver and determine an extent of signal degradation, and to provide a monitoring signal based on the level of degradations, as recited in the claims of the present application.

Moreover, Bradley does not disclose or suggest an RF characteristic analyzer that includes transmission and reception band rejection filters to respectively filter out unwanted signals output from the frequency band filter and the receiving frequency converter, or the RF characteristic analyzer determining whether the unwanted signals are increasing or decreasing, as recited in the claims of the present application. Bradley mere relates to a VNA with two measurement ports that allows the VNA to monitor frequency and power levels of a received signal.

Regarding claims 9, 28, 29 and 31, Applicant submits that these claims are dependent on one of independent claims 8 and 27 and, therefore, are patentable at least for the same reasons noted previously regarding these independent claims. For example, Applicant submits that none of the cited references disclose or suggest where the RF characteristic analyzer includes a first analyzing circuit coupled to monitor and analyze an output signal of the transmitter in real time, a second analyzing circuit coupled to monitor and analyze an output signal of the receiver in real time, and an alarm circuit coupled to receive analyzed data from the first and second analyzing circuits; and generate the monitoring signal.

Accordingly, Applicant submits that none of the cited references, taken alone or in any proper combination, disclose, suggest, or render obvious the limitations in the combination of

each of claims 8, 9, 27-29 and 31 of the present application. Applicant respectfully request that these rejections be withdrawn and that these claims be allowed.

Claim 30 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Applicants admitted prior art in view of Bradley and further in view of Katsuyama et al. Applicant respectfully traverses this rejection and submits that claim 30 is dependent on independent claim 27 and, therefore, is patentable at least for the same reasons noted previously regarding this independent claim. Applicant submits that Katsuyama et al. does not overcome the substantial defects noted previously regarding Bradley. For example, Applicant submits that none of the cited references disclose or suggest where the unwanted wave signals have frequencies of ±1.25 MHz, ±1.98 MHz, ±2.25 MHz and greater than ±2.25 MHz when the band frequency is 1.23 MHz.

Accordingly, Applicant submits that none of the cited references, taken alone or in any proper combination, disclose suggest or render obvious the limitations in the combination of claim 30 of the present application. Applicant respectfully requests that this rejection be withdrawn and this claim be allowed.

CONCLUSION

In view of the foregoing amendments and remarks, Applicant submits that claims 1-23 and 27-31 are now in condition for allowance. Accordingly, early allowance of such claims is respectfully requested. If the Examiner believes that any additional changes would place the

application in better condition for allowance, the Examiner is invited to contact the undersigned, Frederick D. Bailey, at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
FLESHNER & KIM, LLP

David C. Oren
Registration No. 38,694
Frederick D. Bailey
Registration No. 42,282

P.O. Box 221200
Chantilly, Virginia 20153-1200
703 766-3701 DCO/FDB:dak/cah:tlg
Date: January 4, 2006
Please direct all correspondence to Customer Number 34610
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